DIRECT DYES FOR COTTON

NATIONAL ANILINE & CHEMICAL CO.
INCORPORATED
NEW YORK

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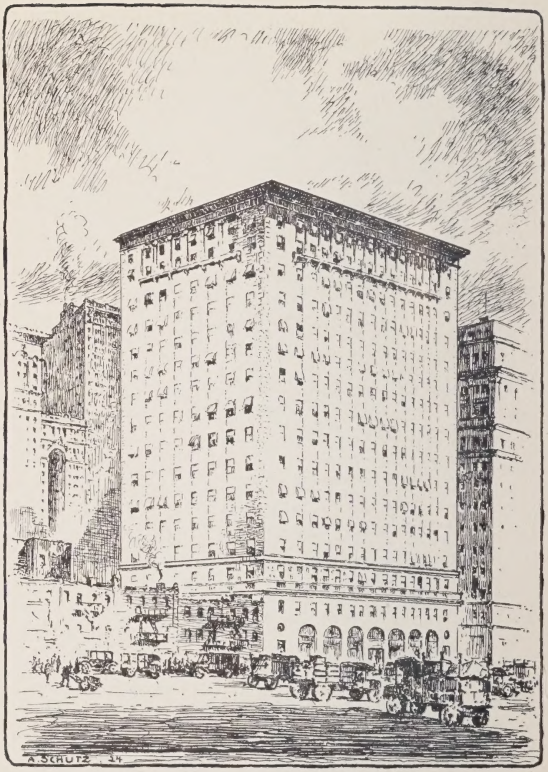

Executive Offices of the
NATIONAL ANILINE & CHEMICAL CO., INC.
located at
40 Rector Street, New York

DIRECT DYES FOR COTTON

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NATIONAL ANILINE & CHEMICAL COMPANY INC.

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The purpose of this book is to illustrate the shades obtained with the Dyes for Cotton manufactured by the National Aniline & Chemical Company, Incorporated, and to give a survey of their properties and methods of application.

The products listed herein comprise the most important of our Direct and Developed Dyes and where applicable, special methods of after-treatment have been included.

The statements made herein, with respect to our several products, are expressions of our opinion based upon careful tests and investigations, and are not warranties.

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GENERAL DIRECTIONS FOR THE APPLICATION OF DIRECT DYES TO COTTON

All percentages given in the following pages are based upon the weight of the material to be dyed or treated, unless otherwise specified.

The percentages given for assistants such as Common Salt, Glauber's Salt, etc., apply to dyeings made in apparatus permitting a dye-bath of about 20 times the weight of the material.* In machines which permit or require a lower ratio of liquor to material, the percentages of assistants must be reduced proportionally.

It is to be understood that dyeings of less than 1%, appearing in this book, have been made on bleached yarn.

Method I

DYEING:

National Direct Dyes dissolve readily, but to secure the best and quickest results use soft water, or better, condensed water. If hard water only is available, it should be corrected by first boiling with the quantity of soda necessary for dyeing.

Pour the boiling water over the dye and stir until a complete solution is obtained. As a special precaution the solution may be strained through muslin or a fine sieve before it is added to the dye-bath.

Prepare the dye-bath with the requisite amount of dye and the following assistants:

For Very Light Shades:

½ to 1% Soda Ash
½ to 1% Soap or Turkey Red Oil

are recommended.

For Light to Medium Shades:

3 to 5% Phosphate of Soda or
2 to 3% Glauber's Salt Crystals

are recommended for the best results for level dyeing and exhaustion of the dye-bath.

Dye for ½ to ¾ hour at 180° F.

* One gallon of water weighs 8.33 lb. One cubic foot of water weighs 62.4 lb.

For Medium to Deep Shades:

½ to 2% Soda Ash
10 to 20% Common Salt or
20 to 40% Glauber's Salt Crystals

Dye at the boil for ¾ to 1 hour in a short liquor.

On account of its lower cost, Common Salt is generally used instead of Glauber's Salt. Better results, however, are obtained almost invariably by the use of the latter; this is especially true when dyeing with:

National Erie Brown 3GN
National Erie Brown CN
National Erie Fast Brown GR
National Erie Yellow KM

The latter color is best dyed with the addition of:

2% Soap and
5 to 10% Phosphate of Soda

The following are dyed best without Soda Ash:

National Erie Yellow KM
National Erie Yellow F
National Erie Yellow 2RF
National Erie Green MT
National Erie Green WT
National Erie Black N R Extra
National Solantine Black L

As a rule, it is best to omit the addition of Soda Ash entirely, if the dyeings are carried out in vessels with copper fittings. In all cases, only enough Soda Ash to correct hard water should be used.

When dyeing in a standing bath, the additions of Salt and Soda Ash should be decreased to not more than one-half of the original amounts. In no event should the dye-bath, at room temperature, stand at more than 2° Tw., as too great an accumulation of salt may cause precipitation of the dye and result in uneven dyeings.

Method II

AFTER-TREATMENT WITH FORMALDEHYDE:

Work the dyed material, after thoroughly rinsing, in a fresh bath containing

½ to 4% Formaldehyde (40%) *and*
1% Acetic Acid (28%)

according to the depth of the shade, for 20 to 30 minutes at 180 to 200° F.

An addition of

1 to 2% Sodium or Potassium Bichromate

still further increases the fastness.

The above treatment materially improves the fastness to washing and fulling of goods dyed with the following:

National Erie Fast Brown 3RB
National Erie Black GXOO
National Erie Black RXOO
National Erie Black RX
National Erie Black B Extra
National Erie Black RB Extra
National Niagara Blue R
National Niagara Blue NR
National Erie Violet 2B
National Erie Black NR Extra

Method III

AFTER-TREATMENT WITH COPPER SULFATE:

Work the dyed material, after thoroughly rinsing, in a fresh bath containing

1 to 3% Copper Sulfate
2 to 5% Acetic Acid (28%)

for 15 to 20 minutes at 140 to 180° F. Use just sufficient Acetic Acid to give a clear bath.

The above treatment materially improves the fastness to washing and light, of goods dyed with the following:

National Niagara Sky Blue 6B
National Niagara Blue RW
National Niagara Blue R
National Niagara Blue G Conc.
National Erie Fast Brown GR
National Erie Fast Brown 3RB
National Erie Catechine 3G
National Erie Catechine B
National Erie Brown GB

Method IV

AFTER-TREATMENT WITH BICHROMATE AND COPPER SULFATE:

Work the dyed material, after rinsing thoroughly, in a fresh bath containing

1 to 3% Sodium or Potassium Bichromate
1 to 2% Copper Sulfate
2 to 5% Acetic Acid (28%)

for about 20 minutes at 160° F.

The above treatment materially improves the fastness to washing and light, of goods dyed with the following:

National Erie Yellow KM
National Erie Fast Brown GR
National Erie Brown GB
National Erie Catechine 3G
National Erie Catechine B
National Erie Orange Y
National Erie Brown CN
National Erie Fast Brown 3RB
National Niagara Blue DB

With the above dyes, the following may be used for shading purposes:

National Erie Yellow F
National Erie Fast Yellow WB

Method V

DIAZOTIZING AND DEVELOPING DIRECT DYES ON THE FIBRE:

First: Work the dyed material, after rinsing thoroughly, for fifteen to twenty minutes in a cold diazotizing bath, containing

	For Light and Medium Shades	*For Heavy Shades*
Sodium Nitrite	1½ to 2%	2½ to 3%
Sulfuric Acid 168° Tw. or 66° Bé	3%	5%
Hydrochloric Acid 32° Tw	5%	7½%

Then rinse lightly in cold water.

Second: Immediately work the material so treated, for twenty minutes, in a cold developing bath containing:

	For Light and Medium Shades	*For Heavy Shades*
National Developer B	½%	1%
Caustic Soda 77%	¼%	½%
or		
National Developer DB	¾%	1½%
Soda Ash	¼%	½%

Rinse thoroughly, and soap if necessary.

PREPARATION OF DEVELOPERS:

The necessary amounts of Developer and Caustic Soda or Soda Ash are boiled together with enough water to effect solution.

The following dyes are especially suitable for the above process (*Method V.*):

National Primuline NAC
National Diazine Scarlet M
National Diazine Bordeaux N
National Erie Fast Brown 3RB
National Erie Violet 2B
National Niagara Blue NR
National Niagara Blue R
National Diazine Black H Extra
National Diazine Black OB
National Diazine Black DR
National Diazine Black V
National Diazine Beta Black N
National Solantine Black L

The following dyes may be used for modifying the shades obtained with the above but their own fastness is not affected by this treatment:

National Erie Yellow F
National Erie Fast Yellow WB
National Erie Fast Scarlet YA
National Erie Fast Scarlet 4BA
National Erie Fast Scarlet 8BA
National Erie Fast Red FD
National Erie Green MT
National Erie Violet 3R

This process yields dyeings of greatly improved fastness to washing and cross-dyeing. As will be seen from the dyed patterns, the shades of the original dyeings are completely changed.

National Primuline NAC yields, when treated with Calcium Hypochlorite, a bright orange-yellow shade of excellent fastness to washing, storing, hot pressing, and acid cross-dyeing; and of fair fastness to light. The direct-dyed cotton is treated for ½ hour in a cold clear Hypochlorite bath of ¾° Tw., rinsed in water acidulated with Hydrochloric Acid, and again thoroughly rinsed.

FASTNESS TESTS

In this edition of "Dyes for Cotton" the fastness of the dyes to the more important agencies is recorded in tabular form. Great care has been exercised to make this record accurate. The difficulty of expressing degrees of fastness, however, is so great, that the user of these dyes is advised to use this record as a guide only, and to confirm the observations recorded, before applying them to his own special conditions.

WASHING:

The washing test upon which observations have been recorded corresponds to the ordinary household washing. (See page xiii.)

LIGHT:

Dyes are graded in regard to fastness to light as

(1) Excellent
(2) Good
(3) Fair
(4) Moderate
(5) Slight

Such dyes as National Erie Fast Yellow WB, and National Niagara Sky Blue 6B with copper sulfate after-treatment, are graded as "excellent." National Erie Congo 4B may be taken as typical of those graded as of "slight" fastness. (See page xv.)

ACIDS:

Fastness to acids is determined by spotting the dyed material with Hydrochloric Acid (10%) and with Acetic Acid (30%). The Acetic Acid and Hydrochloric Acid referred to in the tables are of these strengths. Dyeings for which a change of shade is recorded with Acetic Acid also show at least as great a change with Hydrochloric Acid. Dyeings for which the effect of Hydrochloric Acid only is recorded are not affected by Acetic Acid. (See page xvi.)

ALKALIES:

For testing fastness to alkalies a mixture of 10 grams Quicklime, 10 grams Ammonia (24%), and sufficient water to make one liter is prepared. The dyed material is spotted with this mixture, allowed to dry at room temperature and brushed. (See page xviii.)

HOT PRESSING:

To express resistance to hot pressing the same terms are used as for light fastness. "Excellent" is applied to a dye that yields shades that withstand, without change, a lengthy pressing with a hot iron. A dye yielding a shade that changes considerably under the hot iron and which returns to its original shade very slowly, or not at all, is classed "slight." National Erie Violet 3R, classed as of "excellent" fastness and the untreated shades of National Erie Brown GB, classed as of "slight" fastness, afford examples of the opposite ends of the scale. (See page xix.)

FASTNESS TABULATIONS

In the following pages under appropriate headings are given lists of the National Direct Dyes for Cotton which possess the greatest resistance to the more common color-destroying agencies. Lists are also given of those dyes most suitable for use in some of the more common dyeing operations.

The Roman numerals, appearing in parenthesis after the name of each dye, indicate the methods of application.

DYES OF BEST FASTNESS TO WASHING:

Dyes of medium depth made with the dyes listed below will not stain interwoven white cotton when subjected to the ordinary household washing.

YELLOW

National Erie Yellow F (I)
National Erie Fast Yellow WB (I)
National Erie Yellow KM (IV)
National Erie Yellow 2RF (I)
National Primuline NAC after-treated with hypochlorite

ORANGE

National Erie Orange Y (IV)
National Erie Fast Orange CG (I)
National Erie Fast Orange A (I)

RED

National Primuline NAC (V)
National Diazine Scarlet M (V)
National Diazine Bordeaux N (V)
National Erie Pink 2B (I) light shades
National Erie Fast Scarlet YA (I)
National Erie Fast Scarlet 4BA (I)
National Erie Fast Scarlet 8BA (I)
National Solantine Red 8BLN (I) light shades

VIOLET

National Erie Violet 3R (I) light shades

BROWN

National Erie Fast Brown 3RB (IV) (V)
National Erie Catechine 3G (I) (IV)
National Erie Catechine B (I) (IV)
National Erie Brown CN (IV)
National Erie Brown GB (IV)
National Erie Fast Brown GR (IV)

BLUE

National Niagara Blue DB (I) (V)
National Niagara Blue R (I) (V)
National Niagara Blue NR (I) (II) (V)
National Niagara Sky Blue 6B (III)
National Niagara Blue RW (III)
National Niagara Blue G Conc. (III)
National Diazine Black H Extra (V) Dev. B
National Erie Violet 2B (V)

GREEN

National Erie Green MT (I)
National Erie Green WT (I)

BLACK

National Erie Black GXOO (II)
National Erie Black RXOO (II)
National Erie Black NR Extra (II)
National Diazine Black H Extra (V) Dev. DB
National Diazine Black OB (V) Dev. B & DB
National Erie Black RX (II)
National Erie Black B Extra (II)
National Erie Black RB Extra (II)
National Diazine Black DR (V)
National Diazine Black V (V)
National Diazine Beta Black N (V) Dev. B
National Solantine Black L (I)

DYES OF BEST FASTNESS TO LIGHT:

The dyes listed below produce shades above the average in fastness to light, when dyed by the methods indicated. Those marked with an asterisk (*) are the best of the direct dyes.

YELLOW

National Erie Yellow KM (I)*
National Erie Yellow Y (I)*
National Erie Yellow F (I)
National Erie Fast Yellow WB (I)*
National Erie Yellow 2RF (I)
National Primuline NAC after-treated with Hypochlorite

ORANGE

National Erie Fast Orange CG (I)*
National Erie Fast Orange A (I)

RED

National Erie Fast Scarlet YA (I)
National Erie Fast Scarlet 4BA (I)
National Erie Fast Scarlet 8BA (I)
National Erie Pink 2B (I)
National Solantine Red 8BLN (I)*

VIOLET

National Erie Violet 2B (I) (V)
National Solantine Violet R (I)*

BROWN

National Erie Fast Brown GR (I) (III)* (IV)
National Erie Brown GB (IV)*
National Erie Fast Brown 3RB (I) (IV)*
National Erie Catechine 3G (IV)
National Erie Catechine B (IV)

BLUE

National Niagara Sky Blue 6B (III)*
National Niagara Blue DB (III)
National Niagara Blue R (I) (III)* (V)
National Solantine Blue 4GL (I)*
National Niagara Blue RW (III)*
National Niagara Blue G Conc. (III)*
National Niagara Fast Blue RL (I)*

BLACK AND GRAY

National Erie Fast Gray M (I) (V)
National Diazine Black OB (V)
National Diazine Black DR (I) (V)*
National Solantine Black L (I)*
National Diazine Black V (I) (V)*
National Diazine Beta Black N (V)

DYES OF BEST FASTNESS TO ACIDS:

Dyeings of the following are not altered in shade when spotted with Acetic Acid (30%).

YELLOW

National Erie Yellow F (I)
National Erie Fast Yellow WB (I)
National Erie Yellow 2RF (I)
National Primuline NAC after-treated with hypochlorite

ORANGE

National Erie Fast Orange CG (I)
National Erie Fast Orange A (I)

RED

National Erie Fast Scarlet YA (I)
National Erie Fast Scarlet 4BA (I)
National Erie Fast Scarlet 8BA (I)
National Solantine Red 8BLN (I)
National Erie Pink 2B (I)
National Primuline NAC (V)
National Diazine Scarlet M (V)
National Diazine Bordeaux N (V)

VIOLET

National Erie Violet BW (I)
National Erie Violet 2B (I)

BROWN

National Erie Fast Brown 3RB (IV) (V)
National Erie Catechine 3G (I) (III) (IV)
National Erie Fast Brown GR (V)

BLUE

National Niagara Sky Blue 6B (I) (III)
National Niagara Sky Blue (I)
National Niagara Blue R (I) (III) (V)
National Niagara Blue DB (I) (III) (V)
National Niagara Blue 2B (I)

GREEN

National Erie Green MT (I)
National Erie Green WT (I)

BLACK

National Solantine Black L (I)
National Erie Black NR Extra (I) (II)
National Diazine Black H Extra (V)
National Diazine Black DR (V)
National Diazine Black OB (V)
National Erie Fast Gray M (V)
National Diazine Black V (V)
National Diazine Beta Black N (V)

Dyeings made with the following are not altered in shade when spotted with Hydrochloric Acid (10%).

YELLOW

National Erie Yellow F (I)
National Erie Fast Yellow WB (I)
National Primuline NAC aftertreated with hypochlorite

ORANGE

National Erie Fast Orange A (I)
National Erie Fast Orange CG (I)

RED

National Erie Fast Scarlet YA (I)
National Erie Fast Scarlet 4BA (I)
National Erie Fast Scarlet 8BA (I)

BLUE

National Niagara Sky Blue 6B (I)
National Niagara Sky Blue (I)
National Niagara Blue R (I) (V)
National Niagara Blue RW (I)
National Niagara Blue G Conc. (I)
National Niagara Blue NR (V)
National Erie Violet 2B (V)

BLACK

National Diazine Black H Extra (V) Dev. DB
National Diazine Black DR (V)
National Diazine Black V (V)
National Diazine Beta Black N (V)

DYES OF BEST FASTNESS TO ALKALI:

Dyeings of the following are not altered in shade when spotted with a mixture of Milk of Lime and Ammonia.

YELLOW

National Erie Yellow Y (I)
National Erie Yellow F (I)
National Erie Fast Yellow WB (I)
National Primuline NAC after-treated with hypochlorite

ORANGE

National Erie Fast Orange CG (I)
National Erie Orange Y (IV)
National Erie Fast Orange A (I)

RED

National Erie Fast Scarlet YA (I)
National Erie Congo 4B (I)
National Erie Red 4B (I)
National Erie Fast Scarlet 4BA (I)
National Erie Fast Scarlet 8BA (I)
National Erie Fast Red FD (I)
National Erie Cardinal 7B (I)
National Erie Garnet B (I)
National Erie Bordeaux B (I)
National Primuline NAC (V)
National Diazine Scarlet M (V)
National Diazine Bordeaux N (V)
National Solantine Red 8BLN (I)

VIOLET

National Erie Violet 2B (I)

BROWN

National Erie Fast Brown GR (IV)
National Erie Brown GB (IV)
National Erie Fast Brown 3RB (I) (IV) (V)

BLUE

National Niagara Sky Blue 6B (I)
National Niagara Sky Blue (I)
National Niagara Blue DB (I) (IV) (V)
National Niagara Blue 3B (I)
National Niagara Blue HW (I)
National Niagara Blue R (V)
National Niagara Fast Blue RL (I)
National Niagara Blue NR (I) (V)
National Diazine Black H Extra (I)
National Erie Violet 2B (V)
National Niagara Blue 2B (I)

BLACK AND GRAY

National Erie Fast Gray M (I)
National Diazine Black H Extra (V)
National Diazine Black V (V)
National Diazine Beta Black N (V)
National Diazine Black DR (V)

DYES OF BEST FASTNESS TO HOT PRESSING:

Shades obtained with the dyes listed below change very little under the hot iron. If change does take place, the goods return to the original shade on cooling.

YELLOW

National Erie Yellow KM (I)
National Erie Yellow Y (I)
National Erie Yellow 2RF (I)
National Erie Flavine S (I)
National Erie Yellow F (I)
National Erie Fast Yellow WB (I)
National Primuline NAC after-treated with hypochlorite

ORANGE

National Erie Fast Orange CG (I)
National Erie Orange Y (I) (IV)
National Erie Fast Orange A (I)

RED

National Erie Fast Scarlet YA (I)
National Erie Fast Scarlet 4BA (I)
National Erie Fast Scarlet 8BA (I)
National Erie Fast Red FD (I)
National Solantine Red 8BLN (I)
National Erie Pink 2B (I)
National Primuline NAC (V)
National Diazine Scarlet M (V)
National Diazine Bordeaux N (V)

VIOLET

National Erie Violet 3R (I)

BROWN

National Erie Fast Brown GR (I) (IV)
National Erie Catechine 3G (I) (IV)
National Erie Catechine B (I) (IV)

BLUE

National Niagara Sky Blue 6B (I) (III)
National Niagara Sky Blue (I)
National Niagara Blue DB (I) (III)
National Niagara Blue HW (I)
National Niagara Fast Blue RL (I)
National Niagara Blue NR (II)
National Niagara Blue RW (III)
National Diazine Black H Extra (I)
National Solantine Blue 4GL (I)

GREEN

National Erie Green MT (I)
National Erie Green WT (I)

BLACK

National Erie Black GXOO (I) (II)
National Erie Black RXOO (I) (II)
National Erie Black NR Extra (I)
National Erie Black RB Extra (I) (II)
National Erie Black RX (I) (II)
National Diazine Black DR (V)
National Diazine Black V (V)
National Solantine Black L (I)
National Diazine Black OB (V)
National Erie Black B Extra (I) (II)
National Diazine Black H Extra (V)
National Diazine Beta Black N (V)

DYES SUITABLE FOR DISCHARGING WITH HYDROSULFITE:

The following dyes in full shades discharge with hydrosulfite to good whites.

YELLOW

National Erie Yellow KM (I)
National Erie Yellow Y (I)

ORANGE

National Erie Orange 2R (I)

RED

National Solantine Red 8BLN (I)
National Erie Pink 2B (I)
National Erie Fast Red FD (I)
National Erie Bordeaux B (I)

VIOLET

National Erie Violet 3R (I)
National Erie Violet BW (I)

BROWN

National Erie Brown CN (I)
National Erie Brown 3G (I)
National Erie Catechine B (I)
National Erie Brown 3GN (I)
National Erie Brown GB (I)
National Erie Fast Brown 3RB (I)
National Erie Fast Brown GR (I)

BLUE

National Niagara Sky Blue 6B (I)
National Niagara Sky Blue (I)
National Niagara Blue 2B (I)
National Niagara Blue BR (I)
National Niagara Blue RW (I)
National Solantine Blue 4GL (I)
National Niagara Blue R (I)
National Niagara Blue 3B (I)
National Niagara Blue HW (I)
National Niagara Fast Blue RL (I)
National Niagara Blue G Conc. (I)
National Diazine Black H Extra (I)

GREEN

National Erie Green MT (I)
National Erie Green WT (I)

BLACK AND GRAY

National Erie Black B Extra (I)
National Erie Black RB Extra (I)
National Erie Fast Gray M (I)
National Diazine Black V (I)(V) Dev.B
National Diazine Black H Extra (V)
National Diazine Black OB (I) (V)
National Diazine Black DR (I) (V) Dev. B

DYES SUITABLE FOR DYEING IN A COOL OR LUKEWARM BATH:

The following dyes yield full or fairly full shades when dyed cool or lukewarm:

YELLOW

National Erie Yellow F
National Erie Yellow Y
National Erie Fast Yellow WB
National Erie Yellow 2RF

ORANGE

National Erie Fast Orange CG
National Erie Orange Y

RED

National Erie Congo 4B
National Erie Cardinal 7B
National Erie Pink 2B

VIOLET

National Erie Violet BW
National Erie Violet 2B

BROWN

National Erie Fast Brown 3RB
National Erie Brown 3GN

BLUE

National Niagara Sky Blue 6B
National Niagara Sky Blue
National Niagara Blue 2B
National Niagara Blue 3B
National Niagara Blue R
National Niagara Blue HW
National Diazine Black H Extra
National Niagara Blue BR
National Niagara Blue NR
National Solantine Blue 4GL

GREEN

National Erie Green WT

BLACK

National Erie Black NR Extra
National Diazine Black DR
National Erie Fast Gray M

DYES FOR COMBINATION SHADES AND SUBSEQUENT SHADING:

The following dyes are suitable for the production of light combination shades, and for shading purposes may be safely added to the bath at the boil.

YELLOW

National Erie Yellow Y
National Erie Yellow F
National Erie Fast Yellow WB
National Erie Yellow 2RF

ORANGE

National Erie Fast Orange CG
National Erie Orange Y
National Erie Fast Orange A

RED

National Erie Red 4B
National Erie Fast Scarlet YA
National Erie Fast Scarlet 4BA
National Erie Fast Scarlet 8BA
National Erie Cardinal 7B
National Solantine Red 8BLN
National Erie Pink 2B
National Erie Bordeaux B

VIOLET

National Erie Violet 2B
National Erie Violet BW

BROWN

National Erie Catechine 3G
National Erie Catechine B

BLUE

National Niagara Sky Blue 6B
National Niagara Sky Blue
National Niagara Blue DB
National Niagara Blue 2B
National Niagara Fast Blue RL
National Niagara Blue 3B
National Niagara Blue HW
National Diazine Black H Extra
National Solantine Blue 4GL

GREEN

National Erie Green MT
National Erie Green WT

BLACK

National Erie Black NR Extra
National Diazine Black DR
National Erie Fast Gray M
National Solantine Black L

DYES SUITABLE FOR MACHINE DYEING:

All of the large number of National Direct Dyes exhibited in this card are suitable for machine dyeing, with the exception of

National Erie Yellow KM
National Erie Garnet B
National Erie Fast Brown GR
National Erie Green WT
National Erie Green MT

The dyes listed above are either sensitive to metals or are not sufficiently level dyeing for use in dyeing machines.

ACETATE SILK (LUSTRON AND CELANESE) EFFECTS:

Union material consisting of cotton and Acetate Silk (Lustron and Celanese) may be dyed with the following Direct Colors by the usual methods for cotton without any staining of the artificial silk:

YELLOW

National Erie Yellow KM
National Erie Yellow Y
National Erie Fast Yellow WB
National Erie Yellow F
National Erie Yellow 2RF

ORANGE

National Erie Fast Orange CG
National Erie Fast Orange A

RED

National Erie Pink 2B
National Erie Fast Scarlet YA
National Erie Fast Scarlet 4BA
National Erie Fast Scarlet 8BA
National Solantine Red 8BLN

VIOLET

National Erie Violet 2B (in light shades)

BROWN

National Erie Catechine 3G
National Erie Brown CN (in light shades)

BLUE

National Niagara Sky Blue 6B
National Niagara Sky Blue
National Niagara Blue 3B
National Niagara Blue 2B
National Solantine Blue 4GL
National Niagara Fast Blue RL
National Diazine Black H Extra (Self Shade)
National Niagara Blue HW

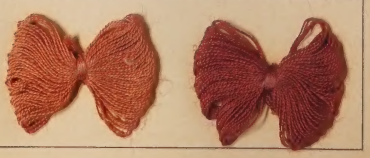
BLACK

National Diazine Black OB
National Erie Black NR Extra (slight stain)
National Erie Black B Extra (slight stain)
National Erie Black RB Extra (slight stain)

DYEINGS AND TABULATIONS OF FASTNESS PROPERTIES

	1. *National* *Erie Flavine S* *Method I* ¼% 2%
	2. *National* *Erie Yellow KM* *Method I* ½% 2%
	3. *National* *Erie Fast Yellow WB* *Method I* ½% 2%
	4. *National* *Erie Yellow F* *Method I* ½% 2%
	5. *National* *Erie Yellow Y* *Method I* ½% 2%
	6. *National* *Erie Yellow 2RF* *Method I* ½% 2%
	7. *National* *Erie Fast Orange CG* *Method I* ½% 2%

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
White cotton is untinted by medium dyeings	Slight to Moderate	The shade is appreciably reddened by Acetic Acid	The shade is not altered	Good	Not affected by Hydrosulfite
White cotton is slightly tinted by light dyeings	Good	The Shade is appreciably altered by Acetic Acid	The shade is slightly reddened	Moderate	Excellent
White cotton is untinted by medium dyeings	Excellent	The shade is slightly altered by Hydrochloric Acid	The shade is unaltered	Good to Excellent	Not dischargeable. Applicable for colored discharges
White cotton is untinted by deep dyeings	Fair to Good	The shade is slightly altered by Hydrochloric Acid	The shade is unaltered	Good	Discharge effects are tinted pink
White cotton is slightly tinted by light dyeings	Good	The shade is somewhat darkened by Acetic Acid	The shade is unaltered	Good	Whites are slightly tinted in heavy shades
White cotton is untinted by medium dyeings	Fair to Good	The shade is unaltered by Acetic Acid	The shade is slightly reddened	Good	Discharge effects are tinted pink
White cotton is untinted by deep dyeings	Good to Excellent	The shade is slightly darkened by Hydrochloric Acid	The shade is unaltered	Good	Discharge effects are tinted

8. *National* *Erie Orange Y* *Method I* ½% 2%	
9. *National* *Erie Orange 2R* *Method I* ½% 2%	
10. *National* *Erie Fast Orange A* *Method I* ⅛% 2%	
11. *National* *Erie Fast Scarlet YA* *Method I* ⅛% 3%	
12. *National* *Erie Fast Scarlet 4BA* *Method I* ⅛% 3%	
13. *National* *Erie Fast Scarlet 8BA* *Method I* ⅛% 3%	
14. *National* *Erie Fast Red FD* *Method I* 1% 3%	

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
White cotton is slightly tinted by light dyeings	Moderate	The shade is slightly altered by Acetic Acid	The shade is somewhat reddened	Excellent	Suitable ground for colored discharges
White cotton is slightly tinted by light dyeings	Moderate	The shade is much darkened by Acetic Acid	The shade is reddened	Good	Excellent
White cotton is slightly tinted by light dyeings	Fair	The shade is unaltered by Hydrochloric Acid	The shade is unaltered	Good	Suitable ground for colored discharges
White cotton is slightly tinted by light dyeings	Fair	The shade is slightly altered by Hydrochloric Acid	The shade is unaltered	Good	Discharges well in light shades
White cotton is untinted by light dyeings	Fair	The shade is unaltered by Hydrochloric Acid	The shade is unaltered	Good	Discharges in light shades
White cotton is untinted by light dyeings	Fair	The shade is unaltered by Hydrochloric Acid	The shade is unaltered	Good	Suitable ground for colored discharges
White cotton is slightly tinted by light dyeings	Fair	The shade is very slightly altered by Acetic Acid	The shade is unaltered	Good	Excellent

	15. *National* *Erie Pink 2B* *Method I* ⅛% ½%
	16. *National* *Erie Pink 2B* *Method I* ¼% 2%
	17. *National* *Solantine Red 8BLN* *Method I* ⅛% 1%
	18. *National* *Solantine Red 8BLN* *Method I* ¼% 3%
	19. *National* *Erie Red 4B* *Method I* 1% 3%
	20. *National* *Erie Congo 4B* *Method I* 1% 3%
	21. *National* *Erie Cardinal 7B* *Method I* 1% 3%

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
White cotton is untinted by light dyeings	Fair to good	The shade is yellowed by Hydrochloric Acid	The shade becomes slightly bluer	Good	Good
White cotton is untinted by light dyeings	Excellent	The shade turns bluer with Hydrochloric Acid	The shade is unaltered	Fair	Good
White cotton is very slightly-tinted by light dyeings	Moderate	Turns much bluer with Acetic Acid	The shade is unaltered	Fair	Good
White cotton is slightly tinted by light dyeings	Slight	The shade is blackened by Acetic Acid	The shade is unaltered	Moderate to Fair	Good in light shades
White cotton is slightly tinted by light dyeings	Moderate	The shade is much darkened by Acetic Acid	The shade is unaltered	Fair to Good	Suitable in light shades

22. *National Erie Bordeaux B* *Method I* 1% 3%	
23. *National Erie Garnet B* *Method I* 1% 3%	
24. *National Solántine Violet R* *Method I* 1/8% 1/2%	
25. *National Solantine Violet R,* *Method I* 1/4% 2%	
26. *National Erie Violet 3R* *Method I* 1/4% 3%	
27. *National Erie Violet BW* *Method I* 1% 3%	
28. *National Erie Violet 2B* *Method I* 1/4% 3%	

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
White cotton is slightly tinted by light dyeings	Moderate	Turns bluer and duller with Acetic Acid	The shade is very slightly darkened	Good	Excellent
White cotton is untinted by light dyeings	Slight	The shade is much darkened by Acetic Acid	The shade is unaltered	Good	Discharge effects are tinted
White cotton is slightly tinted by medium dyeings	Excellent	The shade becomes redder with Hydrochloric Acid	The shade becomes slightly lighter	Good	Not suitable
White cotton is slightly tinted by medium dyeings	Good	The shade is slightly altered by Acetic Acid	The shade is slightly altered	Excellent	Good
White cotton is slightly tinted by light dyeings	Moderate to Fair	The shade is slightly altered by Hydrochloric Acid	The shade is slightly altered	Slight	Excellent
White cotton is slightly tinted by medium dyeings	Fair	The shade is slightly altered by Hydrochloric Acid	The shade is unaltered	Slight	Suitable ground for colored discharges

	29. National Erie Brown CN Method I ½% 3%
	30. National Erie Brown 3GN Method I ½% 3%
	31. National Erie Fast Brown GR Method I ½% 3%
	32. National Erie Catechine 3G Method I ½% 3%
	33. National Erie Fast Brown 3RB Method I 1% 3%
	34. National Erie Catechine B Method I ½% 3%
	35. National Erie Brown GB Method I 1% 3%

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
White cotton is untinted by light dyeings	Fair	The shade is darkened by Acetic Acid	The shade is slightly reddened	Moderate	Excellent
White cotton is untinted by light dyeings	Fair	The shade is slightly altered by Acetic Acid	The shade is unaltered	Good	Excellent
White cotton is untinted by light dyeings	Good	The shade is slightly altered by Acetic Acid	The shade is slightly reddened	Good	Excellent
White cotton is untinted by light dyeings	Good	Shade becomes greener with Acetic Acid	Shade turns slightly redder	Good	Excellent
White cotton is untinted by light dyeings	Good	The shade is slightly altered by Acetic Acid	The shade is unaltered	Slight	Excellent
White cotton is slightly tinted by light dyeings	Good	Shade is slightly-blued by Hydrochloric Acid	Shade becomes slightly yellower	Good	Excellent
White cotton is slightly tinted by light dyeings	Moderate to Fair	Turns greener with Acetic Acid	The shade is reddened	Slight	Excellent

36. *National* *Niagara Sky Blue 6B* *Method I* ⅛% 2%	
37. *National* *Niagara Sky Blue* *Method I* ¼% 2%	
38. *National* *Solantine Blue 4GL* *Method I* ⅛% 1%	
39. *National* *Solantine Blue 4GL* *Method I* ¼% 2%	
40. *National* *Niagara Blue 3B* *Method I* ¼% 2%	
41. *National* *Niagara Blue RW* *Method I* ½% 3%	
42. *National* *Niagara Blue HW* *Method I* ½% 3%	

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
White cotton is untinted by light dyeings	Fair	The shade is unaltered by Hydrochloric Acid	The shade is unaltered	Good	Excellent
White cotton is untinted by light dyeings	Fair	The shade is unaltered by Hydrochloric Acid	The shade is unaltered	Good	Excellent
White cotton is untinted by medium dyeings	Excellent	The shade is dulled by Hydrochloric Acid	The shade is somewhat dulled	Good	Excellent
White cotton is untinted by light dyeings	Fair	Slightly reddened by Hydrochloric Acid	The shade is unaltered	Good	Excellent
White cotton is slightly tinted by light dyeings	Fair	Unaltered by Hydrochloric Acid	Slightly reddened	Fair to Good	Excellent
White cotton is slightly tinted by light dyeings	Fair	The shade is slightly reddened by Hydrochloric Acid	The shade is unaltered	Good	Excellent

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43. *National* *Niagara Blue 2B* *Method I* ½% 3%	
44. *National* *Niagara Blue G Conc.* *Method I* ½% 2%	
45. *National* *Niagara Fast Blue RL* *Method I* ¾% 3%	
46. *National* *Niagara Blue R* *Method I* ½% 2%	
47. *National* *Niagara Blue BR* *Method I* 1% 3%	
48. *National* *Niagara Blue NR* *Method I* 1% 3%	
49. *National* *Niagara Blue DB* *Method I* 1% 3%	

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
White cotton is untinted by light dyeings	Fair	The shade is slightly reddened by Hydrochloric Acid	The shade is unaltered	Good	Excellent
White cotton is untinted by light dyeings	Fair	The shade is unaltered by Hydrochloric Acid	The shade is considerably reddened	Slight	Excellent
White cotton is untinted by light dyeings	Excellent	The shade is slightly reddened by Hydrochloric Acid	The shade is unaltered	Good	Excellent
White cotton is untinted by medium dyeings	Fair	The shade is unaltered by Hydrochloric Acid	The shade is slightly reddened	Moderate	Excellent
White cotton is untinted by light dyeings	Fair	The shade is slightly reddened by Hydrochloric Acid	The shade is somewhat reddened	Fair	Excellent
White cotton is untinted by medium dyeings	Fair	The shade is slightly reddened by Hydrochloric Acid	The shade is unaltered	Fair	Suitable ground for colored discharges
White cotton is untinted by medium dyeings	Fair	The shade is slightly reddened by Hydrochloric Acid	The shade is unaltered	Good	Suitable ground for colored discharges

50.
National
Diazine Black H Extra
Method I
1% 3%

51.
National
Erie Green MT
Method I
1% 3%

52.
National
Erie Green WT
Method I
1% 3%

53.
National
Erie Fast Gray M
Method I
¼% 1%

54.
National
Solantine Black L
Method I
⅛% 1%

55.
National
Solantine Black L
Method I
½% 3%

56.
National
Erie Black NR Extra
Method I
½% 5%

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
White cotton is untinted by light dyeings	Fair	The shade is slightly reddened by Hydrochloric Acid	The shade is unaltered	Fair	Excellent
White cotton is untinted by light dyeings	Fair	The shade is blackened by Hydrochloric Acid	The shade is slightly darkened	Good	Excellent
White cotton is untinted by light dyeings	Fair	The shade is blackened by Hydrochloric Acid	The shade is slightly darkened	Good	Good
White cotton is untinted by light dyeings	Good	The shade is slightly reddened by Acetic Acid	The shade is unaltered	Good	Excellent
White cotton is untinted by light dyeings	Excellent to Good	The shade is slightly reddened by Acetic Acid	The shade becomes greener	Excellent	Excellent in light shades
White cotton is untinted by light dyeings	Moderate to Fair	The shade is but slightly altered by Hydrochloric Acid	The shade becomes slightly duller	Good	Good in medium shades

	57. *National* *Erie Black GXOO* *Method I* ½% 5%
	58. *National* *Erie Black B Extra* *Method I* ½% 5%
	59. *National* *Erie Black RB Extra* *Method I* ½% 5%
	60. *National* *Erie Black RXOO* *Method I* ½% 5%
	61. *National* *Erie Black RX* *Method I* ½% 5%
	62. *National* *Diazine Black OB* *Method I* ½% 4%
	63. *National* *Diazine Black DR* *Method I* ½% 4%

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
White cotton is untinted by light dyeings	Moderate	The shade is reddened by Acetic Acid	The shade becomes somewhat greener	Good	Excellent in medium shades
White cotton is untinted by light dyeings	Moderate	The shade becomes redder with Acetic Acid	The shade becomes appreciably greener	Good	Excellent in medium shades
White cotton is untinted by light dyeings	Moderate	The shade becomes redder with Acetic Acid	The shade becomes appreciably greener	Good	Excellent in medium shades
White cotton is slightly tinted by light dyeings	Moderate	The shade is reddened by Acetic Acid	The shade becomes somewhat greener	Good	Excellent in medium shades
White cotton is slightly tinted by light dyeings	Moderate	The shade is reddened by Acetic Acid	The shade becomes somewhat greener	Good	Excellent in medium shades
White cotton is slightly tinted by light dyeings	Fair	Turns slightly bluer with Acetic Acid	The shade is slightly altered	Moderate	Excellent
White cotton is slightly tinted by light dyeings	Fair	The shade is slightly altered by Acetic Acid	The shade is unaltered	Good	Excellent

64.
National
Niagara Blue NR
3%
Method I
3%
Method II

65.
National
Erie Black GXOO
5%
Method I
5%
Method II

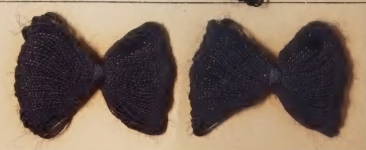
66.
National
Erie Black B Extra
5%
Method I
5%
Method II

67.
National
Erie Black RB Extra
5%
Method I
5%
Method II

68.
National
Erie Black RXOO
5%
Method I
5%
Method II

69.
National
Erie Black RX
5%
Method I
5%
Method II

70.
National
Erie Black NR Extra
5%
Method I
5%
Method II



Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
(*Fastness properties apply to after-treated dyeings*)					
White cotton is untinted by heavy dyeings	Good	The shade is unaltered by Hydrochloric Acid	The shade is unaltered	Fair to Good	Not suitable. Discharge effects are tinted
White cotton is untinted by medium dyeings	Moderate	The shade is reddened by Acetic Acid	The shade becomes somewhat greener	Good	Excellent in medium shades
White cotton is slightly tinted by medium dyeings	Moderate	The shade becomes redder with Acetic Acid	The shade becomes appreciably greener	Good	Excellent in medium shades
White cotton is slightly tinted by medium dyeings	Moderate	The shade becomes redder with Acetic Acid	The shade becomes appreciably greener	Good	Excellent in medium shades
White cotton is untinted by light dyeings	Moderate	The shade is reddened by Acetic Acid	The shade becomes somewhat greener	Good	Excellent in medium shades
White cotton is untinted by light dyeings	Moderate	The shade is reddened by Acetic Acid	The shade becomes somewhat greener	Good	Excellent in medium shades
White cotton is untinted by medium dyeings	Moderate to Fair	The shade is but slightly altered by Hydrochloric Acid	The shade becomes slightly duller	Good	Excellent in medium shades

71.

National
Niagara Sky Blue 6B

½%
Method I

½%
Method III

72.

National
Niagara Blue RW

3%
Method I

3%
Method III

73.

National
Niagara Blue G Conc.

2%
Method I

2%
Method III

74.

National
Niagara Blue R

3%
Method I

3%
Method III

75.

National
Erie Orange Y

3%
Method I

3%
Method IV

76.

National
Erie Brown CN

3%
Method I

3%
Method IV

77.

National
Erie Catechine 3G

4%
Method I

4%
Method IV

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
(*Fastness properties apply to after-treated dyeings*)					
White cotton is untinted by medium dyeings. Shade slightly reddened	Excellent	Shade becomes slightly bluer with Hydrochloric Acid	The shade is reddened	Good	Suitable ground for colored discharges
White cotton is untinted by medium dyeings. Shade slightly reddened	Excellent	Shade is slightly reddened by Hydrochloric Acid	The shade is reddened	Good	Discharge effects are tinted
White cotton is untinted by medium dyeings. Shade slightly reddened	Good	Shade becomes slightly bluer with Hydrochloric Acid	Shade is considerably reddened	Fair	Discharge effects are tinted
White cotton is untinted by medium dyeings. Shade slightly reddened	Good	Shade is slightly reddened by Hydrochloric Acid	Shade is reddened	Moderate	Suitable ground for colored discharges
White cotton is untinted by heavy dyeings	Fair	Shade is considerably darkened by Hydrochloric Acid	Shade is unaltered	Good	Not dischargeable
White cotton is untinted by medium dyeings	Good	Shade is slightly darkened by Acetic Acid	Shade is slightly reddened	Moderate	Suitable ground for colored discharges
White cotton is untinted by medium dyeings	Good	Shade turns greener with Acetic Acid	Shade turns slightly redder	Good	Whites are tinted

78.
National
Erie Fast Brown GR
3%
Method I
3%
Method IV

79.
National
Erie Brown GB
4%
Method I
4%
Method IV

80.
National
Erie Catechine B
3%
Method I
3%
Method IV

81.
National
Erie Fast Brown 3RB
4%
Method I
4%
Method IV

82.
National
Niagara Blue DB
4%
Method I
4%
Method IV

83.
National
Diazine Black DR
Method V
¾%
Developer B
4%

84.
National
Diazine Black DR
Method V
¾%
Developer DB
4%

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
(*Fastness properties apply to after-treated and developed dyeings*)					
White cotton is untinted by medium dyeings	Good to Excellent	Shade is darkened by Hydrochloric Acid	Shade is unaltered	Moderate	Whites are slightly tinted
White cotton is untinted by heavy dyeings	Good	Shade turns a trifle greener with Acetic Acid	Shade is unaltered	Slight	Whites are tinted in light shades
White cotton is untinted by light dyeings	Good	Shade turns slightly bluer with Hydrochloric Acid	Shade becomes slightly yellower	Good	Whites are tinted
White cotton is untinted by medium dyeings	Good to Excellent	Shade is darkened by Hydrochloric Acid	Shade is unaltered	Moderate	Whites are tinted
White cotton is untinted by medium dyeings	Fair	Shade is dulled by Hydrochloric Acid	Shade is unaltered	Good	Not suitable
White cotton is untinted by heavy dyeings	Good	Shade is unaltered by Hydrochloric Acid	Shade is unaltered	Good	Excellent
White cotton is untinted by heavy dyeings	Good	Shade is unaltered by Hydrochloric Acid	Shade is unaltered	Good	Excellent

85.

National
Primuline NAC

5%
Method I

5%
After-treated with hypochlorite

86.

National
Primuline NAC
Method V

5%
Developer B

5%
Developer DB

87.

National
Diazine Scarlet M
Method V

5%
Developer B

5%
Developer DB

88.

National
Diazine Bordeaux N
Method V

5%
Developer B

5%
Developer DB

89.

National
Erie Fast Brown 3RB
Method V

3%
Developer B

3%
Developer DB

90.

National
Diazine Black H Extra

3%
Method I

3%
Method V
Developer B

91.

National
Diazine Black H Extra

4%
Method I

4%
Method V
Developer DB

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
(*Fastness properties apply to after-treated and developed dyeings*)					
White cotton is not tinted by heavy dyeings	Good	Shade is unaltered by Hydrochloric Acid	Shade is unaltered	Good	Not suitable
White cotton is untinted by medium dyeings	Slight	Shade is slightly darkened by Hydrochloric Acid	Shade is unaltered	Good	Discharges to a bright reddish yellow
White cotton is untinted by medium dyeings	Slight	Shade is slightly darkened by Hydrochloric Acid	Shade is unaltered	Good	Discharges to a bright reddish yellow
White cotton is untinted by medium dyeings	Slight	Shade is slightly darkened by Hydrochloric Acid	Shade is unaltered	Good	Discharges to a bright reddish yellow
White cotton is untinted by medium dyeings	Fair to Good	Shade is slightly darkened by Acetic Acid	Shade is unaltered	Fair to Good	Whites are tinted
White cotton is untinted by medium dyeings	Moderate	Shade is unaltered by Hydrochloric Acid	Shade is unaltered	Good	Excellent
White cotton is untinted by medium dyeings	Moderate	Shade is unaltered by Hydrochloric Acid	Shade is unaltered	Good	Excellent

92.
National
Niagara Blue R
3% Method I
3% Method V
Developer B

93.
National
Niagara Blue NR
3% Method I
3% Method V
Developer B

94.
National
Erie Violet 2B
3% Method I
3% Method V
Developer B

95.
National
Erie Fast Gray M
Method V
1% Developer B
1% Developer DB

96.
National
Diazine Black V
Method V
5% Developer B
5% Developer DB

97.
National
Diazine Black OB
Method V
5% Developer B
5% Developer DB

98.
National
Diazine Beta Black N
Method V
5% Developer B
5% Developer DB

Fastness to Washing	*Fastness to Light*	*Fastness to Acids*	*Fastness to Alkali*	*Fastness to Hot Pressing*	*Hydrosulfite Discharge*
(*Fastness properties apply to after-treated and developed dyeings*)					
White cotton is untinted by heavy dyeings	Good	Shade is unaltered by Hydrochloric Acid	Shade is unaltered	Slight	Discharge effects are tinted
White cotton is untinted by heavy dyeings	Moderate	Shade is unaltered by Hydrochloric Acid	Shade is unaltered	Fair to Good	Discharge effects are tinted
White cotton is untinted by heavy dyeings	Moderate	Shade is unaltered by Hydrochloric Acid	Shade is unaltered	Moderate	Discharge effects are tinted
White cotton is untinted by heavy dyeings	Moderate	Shade is unaltered by Hydrochloric Acid	Shade is unaltered	Good	Excellent with Developer B
White cotton is untinted by heavy dyeings	Good	Shade is unaltered by Hydrochloric Acid	Shade is unaltered	Excellent	Excellent with Developer B
White cotton is untinted by heavy dyeings	Fair	Shade turns slightly redder with Acetic Acid	Shade slightly altered	Good	Excellent with Developer B
White cotton is untinted by heavy dyeings	Good	Shade is unaltered by Hydrochloric Acid	Shade is unaltered	Excellent	Not suitable

NATIONAL . SERVICE

THE National Aniline & Chemical Company, Inc., is convinced that the essence of all good-will is intelligent service.

In accordance with this conviction, the National Aniline & Chemical Company, Inc., maintains a fully equipped laboratory, a trained technical staff, and an experienced sales organization at each branch office. This practical dyeing service is freely placed at the disposal of its customers for the matching of shades and for assistance in the solution of dyeing problems.

Shade cards, illustrating the application of National Dyes on all classes of materials are prepared and distributed to those interested in dyeing.

The improvement of dyeing technique is the key-note of National Service.

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